

## **CHAIR GLIDE**

### **FIELD OF THE INVENTION**

The present invention relates generally to a component for chairs. More particularly, the present invention relates to a chair glide.

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### **BACKGROUND OF THE INVENTION**

With many types of chairs it is desirable to use chair glides at the lower ends of the chair legs to reduce the potential of the chair legs from damaging the surface on which the chair is placed when a person is either sitting on the chair or moving the chair with respect to the surface.

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One common type of chair glide is a plastic cap that extends over the bottom of the chair leg. This type of chair glide must be fabricated from a flexible material to permit the chair glide to be urged over the chair leg. As a result of extended use, these types of chair glides typically experience degradation, which necessitates replacement.

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Another type of chair glide includes a base that engages the chair leg. A foot is attached to the base. The foot is typically pivotable with respect to the base to maximize the surface area that contacts the floor. This type of chair glide is susceptible to mechanical failure if the chair is repeatedly pivoted.

SUMMARY OF THE INVENTION

The present invention is directed to a chair glide for a chair leg having an inner leg surface and an outer leg surface. The glide has an insertion portion and a support portion. The insertion portion includes a plurality of first extensions and a plurality of second extensions.

The first extensions have a width that is greater than a length. The second extensions have a length that is greater than a width. The support portion extends from an end of the insertion portion and has a width that is greater than a width of the inner leg surface.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a chair using chair glides according to the present invention.

Fig. 2 is a perspective view of the chair glide.

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Fig. 3 is a side view of the chair glide.

Fig. 4 is a bottom view of the chair glide.

Fig. 5 is a sectional view showing attachment of the chair glide to a chair leg.

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Fig. 6 is an enlarged sectional view showing attachment of the chair glide to the chair leg.

Fig. 7 is a perspective view of an alternative configuration of the chair glide.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is chair glide as illustrated at 10 in the Figures. The chair glide 10 is adapted for attachment to a lower end of a chair leg 12 to facilitate sitting on or moving the chair 14 while reducing the potential of the chair leg 12 damaging a surface on which the chair 14 is placed.

The chair glide 10 generally includes an insertion portion 20 and a support portion 22 that extends from a lower end of the insertion portion 20. The insertion portion 20 has an outer profile that is shaped to generally conform to an inner surface of the chair leg 12 to which the chair glide 10 is to be attached.

Typically, the insertion portion 20 will have a square profile with each of the sides 24 having a similar configuration. As most clearly illustrated in Figs. 2 and 3, the insertion portion 20 preferably has a length of about 45 millimeters and a width of about 16 millimeters.

Each side 24 includes a plurality of first extensions 30 and a plurality of second extensions 32. The first extensions 30 each have an outer wall 34 and a pair of side walls 36. At least one of the side walls 36 is preferably oriented at an obtuse angle with respect to the outer wall 34.

A length of the first extensions 30 is greater than a width of the extensions 30. The first extensions 30 preferably have a length of about 12 millimeters and a width of about 2 millimeters.

The first extensions 30 are preferably tapered so that the first extensions 30 extend further above the side 24 when moving toward the support

portion 22. An end of the first extension 30 proximate the support portion 22 preferably extends about 2 millimeters above the side 24. Forming the first extensions 30 with this configuration facilitates inserting the chair glide 10 into the chair leg 12 and retaining the chair glide 10 in the chair leg 12 after insertion.

5 For the chair glide 10 having the preceding dimensions, each side 24 preferably has four first extensions 30 that are arranged in two rows so that one of the first extensions 30 is proximate to each corner of the side 24.

The second extensions 32 each preferably extend across a width of the side 24. The second extensions 32 preferably have a width that is greater than a length. Preferably, the second extensions 32 are oriented in an array of five. The width of the array of five second extension 32 is preferably about 4 millimeters and the width of the second extensions 32 is preferably about 14 millimeters.

10 The second extension 32a that is furthest from the support portion 22 having a height that is less than the second extension 32b that is closest to the support portion 22. The second extension 32b preferably has a height of about 1 millimeter.

15 The second extensions 32 are preferably oriented at an intermediate location on the sides 24 between the two rows of first extensions 30. The second extensions 32 are adjacent sides 24 of the insertion portion 20 are preferably slightly offset from each other.

20 The support portion 22 is preferably formed with a plurality of sides 50 that are substantially aligned with an outer surface of the chair leg 12 when the chair glide 10 is attached to the chair leg 12.

Opposite the insertion portion 20, the support portion 22 has a support surface 52. The support surface 52 includes a central region 54 and a plurality of side regions 56 that are oriented along each side of the central region 54, as most clearly illustrated in Figs. 3 and 4.

5                 The central region 54 is preferably oriented substantially perpendicular to the sides 50. The side regions 56 are preferably oriented at an acute angle with respect to the central 54 so that one of the side regions 56 is substantially parallel to the floor even when the chair leg is oriented at an angle with respect to the floor. The angle is preferably less than thirty degrees.

10                The central region 54 and the side regions 56 each preferably have a surface area that is approximately equal. By forming the central region 54 and the side regions 56 with approximately equal areas enables a substantially equal force to be applied to the floor whether the central region 54 or one of the side regions 56 is aligned with the floor.

15                The chair glide 10 is preferably fabricated from a hard plastic material such as NYLON 66. Fabricating the chair glide 10 from this type of material provides the chair glide 10 with a highly durable support surface 52 while the chair glide 10 is substantially non-marking when used on most surfaces.

Prior to insertion of the chair glide 10 into the chair leg 12, the chair  
20                glide 10 is preferably heated to a temperature of at least 130°F and preferably about 150°F. Heating the chair glide to this temperature enables the first extensions 30 and the second extensions 32 to slightly deform as the chair glide 10 is inserted into the

chair leg 12 as most clearly illustrated in Figs. 5 and 6. Slight deformation of the first extensions 30 and the second extensions 32 reduces the potential that the chair glide 10 or the chair leg 12 will be deformed or otherwise damaged as the chair glide 10 is inserted into the chair leg 12.

5 Even with heating of the chair glide 10 prior to insertion, a relatively large force is preferably required to completely insert the insertion portion 20 into the chair leg 12. This configuration thereby prevents the chair glide 10 from falling out of the chair leg 12.

In another embodiment of the chair glide 110, as illustrated in Fig. 7,  
10 the insertion portion 120 includes first extensions and second extensions 132. The first extensions 130 are arranged in an array on each side 124 of the insertion portion 130. Similar to the embodiment illustrated in Figs. 1-6, the first extensions 130 preferably have a length that is greater than a width.

The second extensions 132 are located proximate an end of the  
15 insertion portion 120 that is opposite the support portion 122. The second extensions 132 preferably have a width that is greater than a length similar to the embodiment illustrated in Figs. 1-6.

Another aspect of the present invention relates to a method by which  
the chair glide 10 is fabricated. The method relates to forming a mold that includes  
20 an outer surface and an insert. Forming the mold with the insert is preferably because  
the insert allows the wall thickness to be reduced, which enables the chair glide 10 to  
be formed with more precise dimensions.

It is contemplated that features disclosed in this application, as well as those described in the above applications incorporated by reference, can be mixed and matched to suit particular circumstances. Various other modifications and changes will be apparent to those of ordinary skill.